

May 1988

# Ranger Rick

National Wildlife Federation



**What good  
are moms?**

See page 24.

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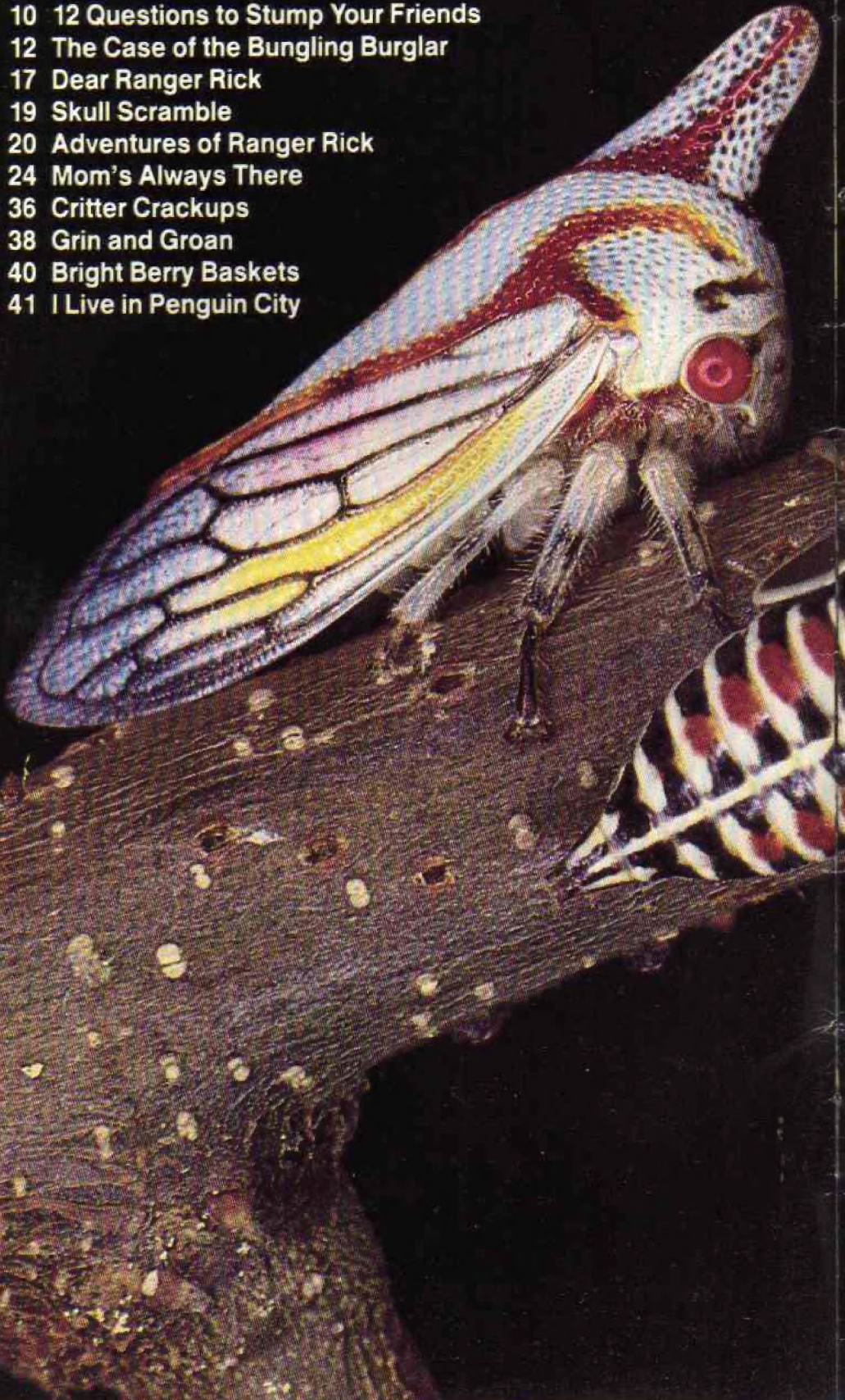
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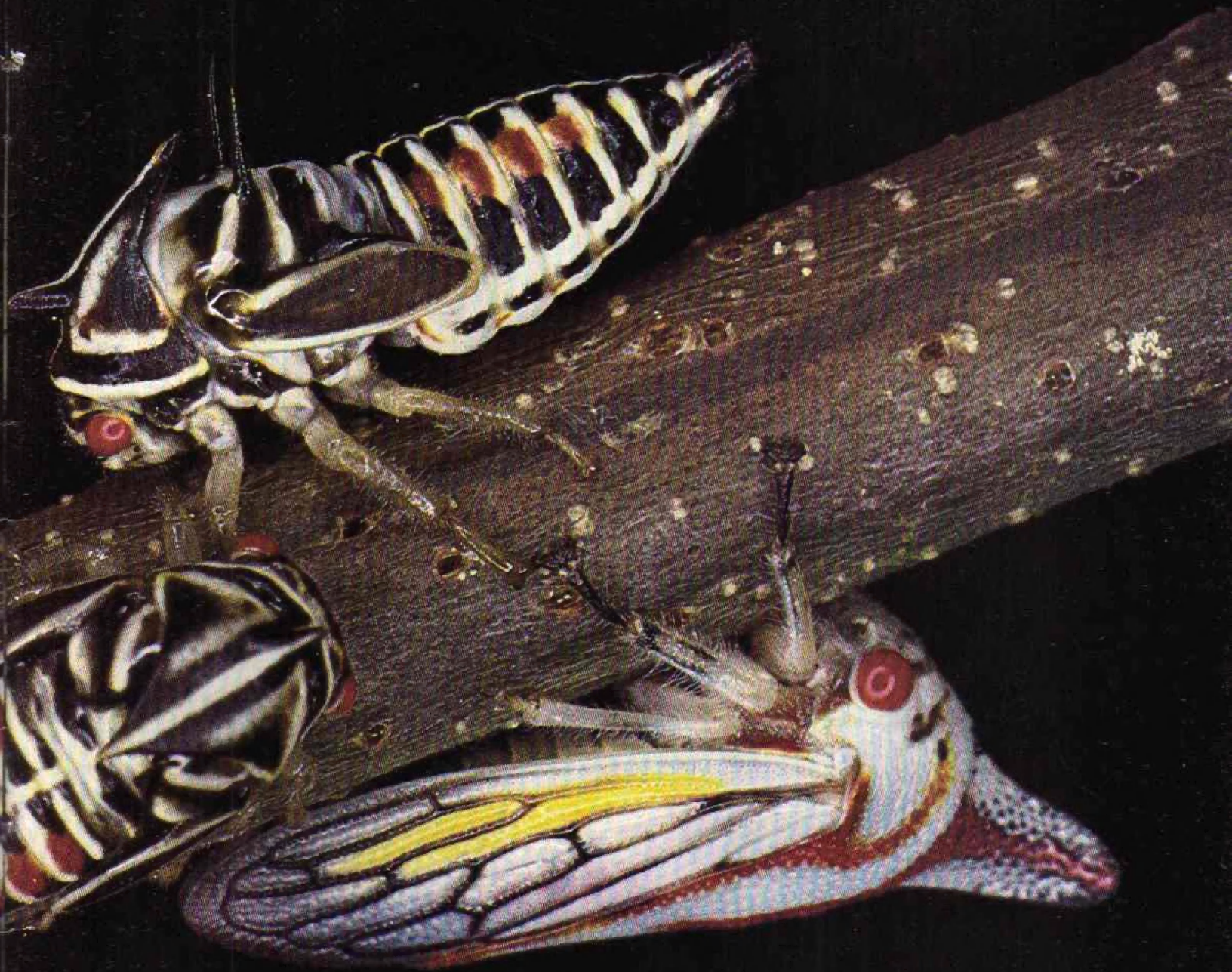
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The Covers: Front—Western gray kangaroos by John Cancalosi; Back—Mountain gorillas by Peter Velt/DRK Photo; Page 3—Oak treehoppers by James L. Cashner



These spiky creatures may look like something from another world, but they're not. They're wild and way-out insects called . . .

# TREEHOPPERS



by Kathleen Walsh

**N**ature is full of little surprises. And treehoppers may be some of the wildest little surprises of all! Some treehoppers can be surprisingly flashy. Others can be surprisingly "sneaky." They are shaped like thorns, leaves, or other plant parts, and this helps them blend in with their surroundings. But probably the most surprising treehoppers of all are the ones like those shown here. They have horns, knobs, or other weird shapes poking up from their little bodies.



Scientists think they know some of the reasons treehoppers are often so strange looking. Bodies that look like twigs or other plant parts are harder for enemies to see. The bright colors of some treehoppers may warn away, scare, or confuse enemies. And spikes or other funny shapes may make some treehoppers a hard meal for enemies to swallow.

Treehoppers live on shrubs, trees, and other plants in most parts of the world. But the really colorful and weird ones are found in the warm, moist

areas of Central and South America. Treehoppers come in different sizes. But most of them are pretty small, about the size of a garden pea.

Because they are called “treehoppers,” you might picture these little insects going *boing-boing-boing* from tree to tree all day. But although treehoppers are strong jumpers, they really don’t hop around very much. And even though they have wings, many of them don’t fly a lot either. Some kinds of treehoppers spend their whole life in the same tree.

So if these insects hop little and fly less, what *do* they do all day? Well, treehoppers spend a lot of time eating sap, or plant juice. First they stab their sharp beaks into twigs, stems, or branches. Then, with tiny “straws” built into their beaks, they sip up the plants’ sweet sap. On pages 2 and 3, two adult treehoppers and two of their *nymphs*, or young, are sipping sap from a branch.

The sap that treehoppers eat is sweet, and that makes the insects’ wastes sweet too. The waste, called *honeydew*, is the favorite food of certain ants. And they have a way of getting it from some kinds of treehoppers: An ant that’s hungry for honeydew will stroke a treehopper’s back end with its feelers. That makes the treehopper squeeze out a drop of honeydew. The ant grabs the drop and gobbles it up.

One treehopper may be able to feed a few ants. But it can’t make enough honeydew to feed all the ant’s nestmates. An ant colony needs lots of treehoppers. So they “adopt” a bunch of nymphs. That way, the ants have a whole “herd” of little honeydew makers.

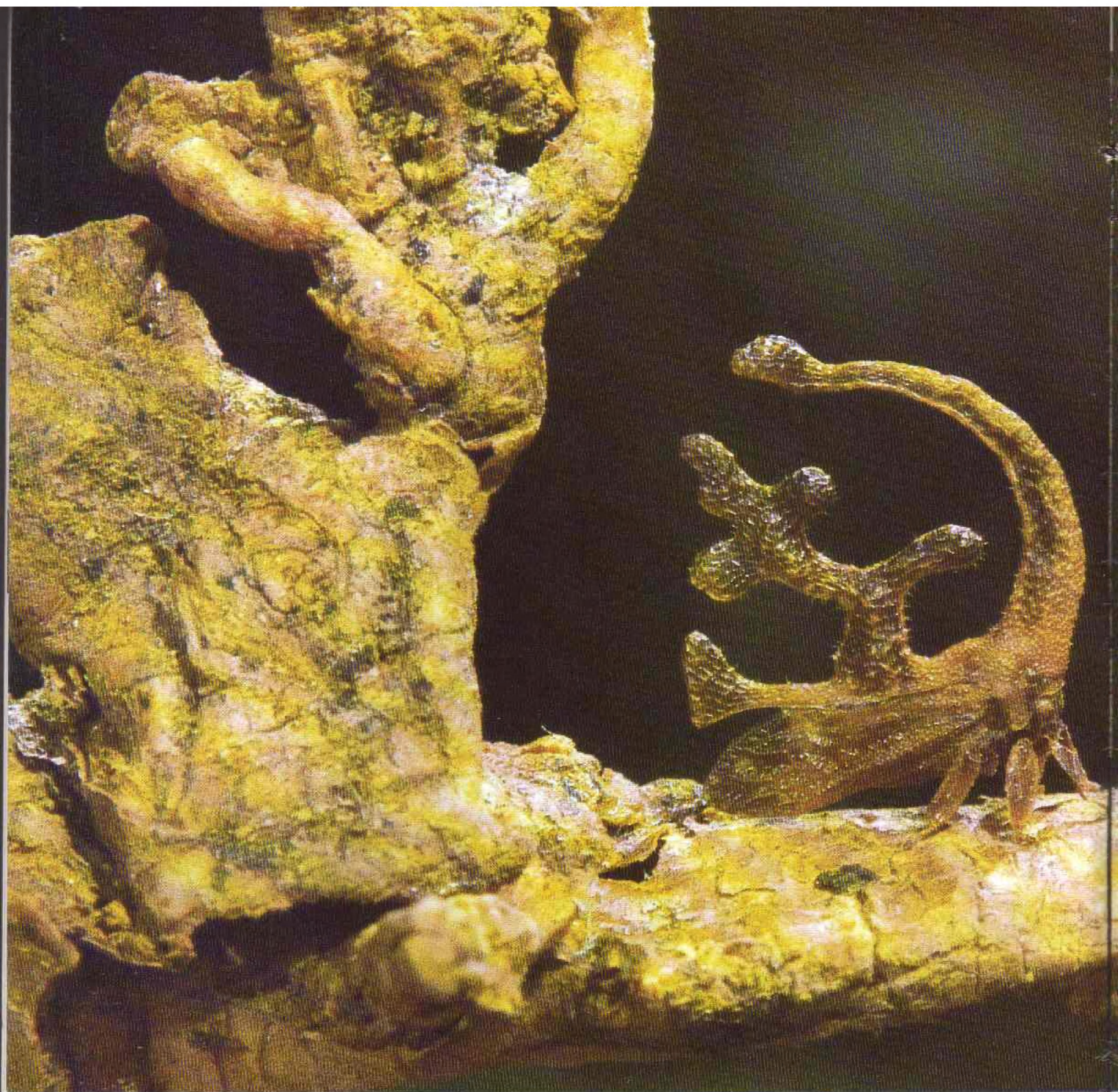
The ants find different kinds

(Continued on page 8)



Photos by Kjell B. Sandved (4L, 4BR), Edward S. Ross (4TR, 5)

**T**reehoppers can be shaped like just about anything! Such odd shapes may make these treehoppers hard for enemies to swallow.





Photos by Kjell B. Sandved, J.A.L. Cooke/Oxford Scientific Films; Chip Clark

**A**re there treehoppers here, or just a twisted branch, a ragged leaf, and a thorny stem? A hungry enemy might not be able to tell!



of treehoppers in different ways. Here's one way it works: Unlike many other insects, some kinds of female treehoppers stay with their eggs after laying them. While a treehopper waits for her eggs to hatch, she's making sweet honeydew. This attracts honeydew-hunting ants that will adopt her young.

About a week after the nymphs hatch, they start making honeydew themselves. And now the ants that have been taking honeydew from "Mom" have much more sweet liquid to feed on. This is a good thing for them. But it's also a good thing for the nymphs. The ants guard their precious honeydew herd well. They protect the nymphs by ganging up on spiders, ladybugs, and other enemies.

Soon the nymphs grow up and become adult treehoppers. And, depending on what kind they are, they may be surprisingly flashy. Or they may look surprisingly like thorns or leaves. They may even have funny spikes, balls, or other weird shapes on their bodies. That's just the way things are with treehoppers—nature's wildest little surprises. 🐜



**A** treehopper watches over her eggs (top). Her newborn young may be taken care of by ants, as these grown-up treehoppers are (above).



# Bloomin' Bafflers

by June Swanson

Look what the April showers brought! A whole flower box full of puzzlers. And now you've got the chance to see whether you can figure out the flowers' names. Here's a hint: The first flower is a sunflower. *(Answers on page 38)*

Can you make up some bafflers of your own using animals' names? If so, pick a favorite and send it to: Ranger Rick's Bafflers, 8925 Leesburg Pike, Vienna, VA 22184-0001.

# 12

## Questions to Stump Your Friends

by Jerome M. Cowle

### 1. Which is the tallest kind of tree in the world?

The coast redwood of California. The tallest redwood ever measured reaches higher than a 35-story building.

### 2. Which tree has the thickest trunk?

A Montezuma bald cypress in Mexico. This tree is over 40 feet (12 m) across. It would take at least 30 eight-year-old kids holding hands in a circle to reach around this tree.

### 3. If you hammer a nail into a tree, will it move higher as the tree grows taller?

No. Trees grow taller and longer only at the tips of their

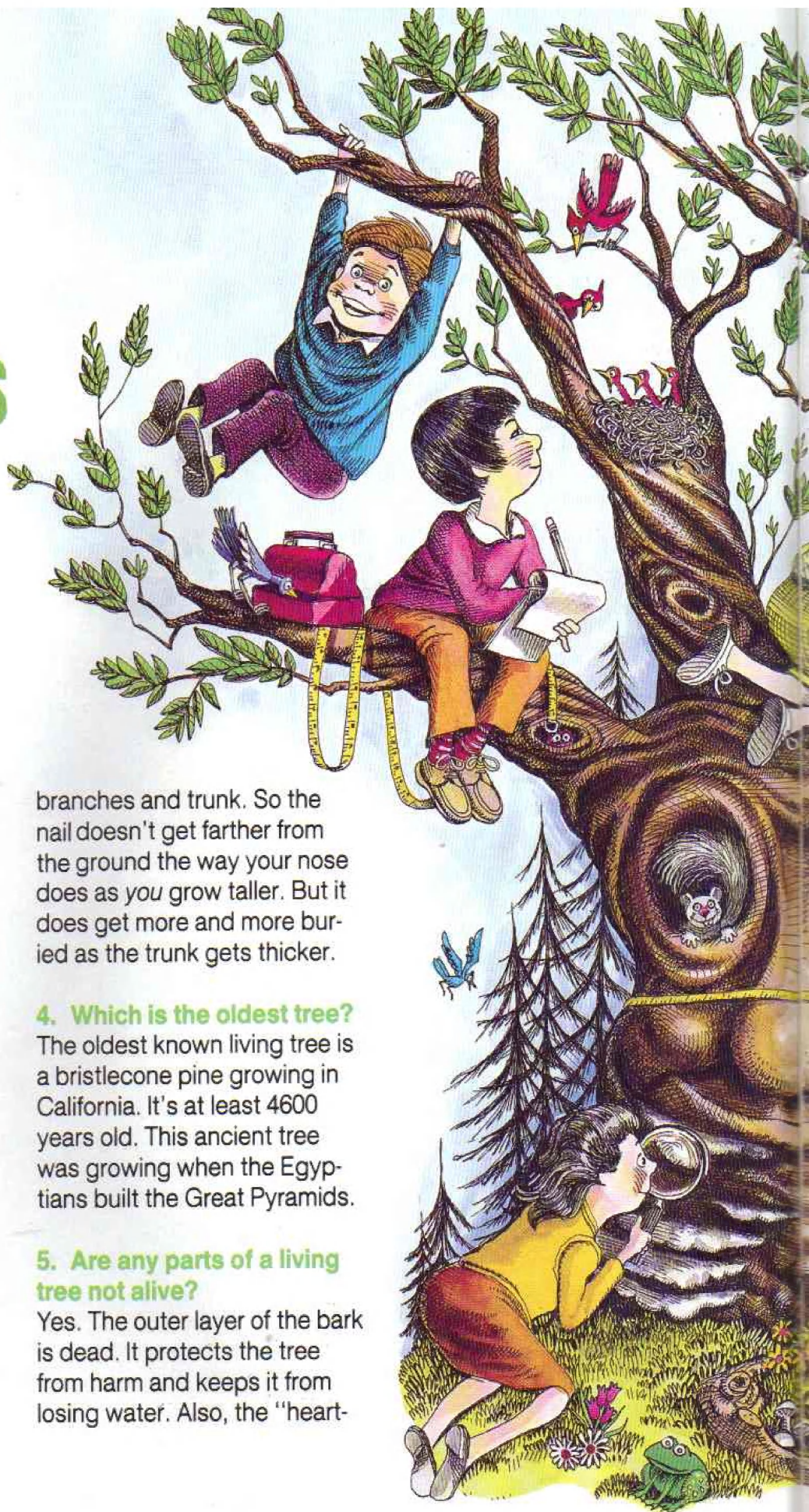
branches and trunk. So the nail doesn't get farther from the ground the way your nose does as *you* grow taller. But it does get more and more buried as the trunk gets thicker.

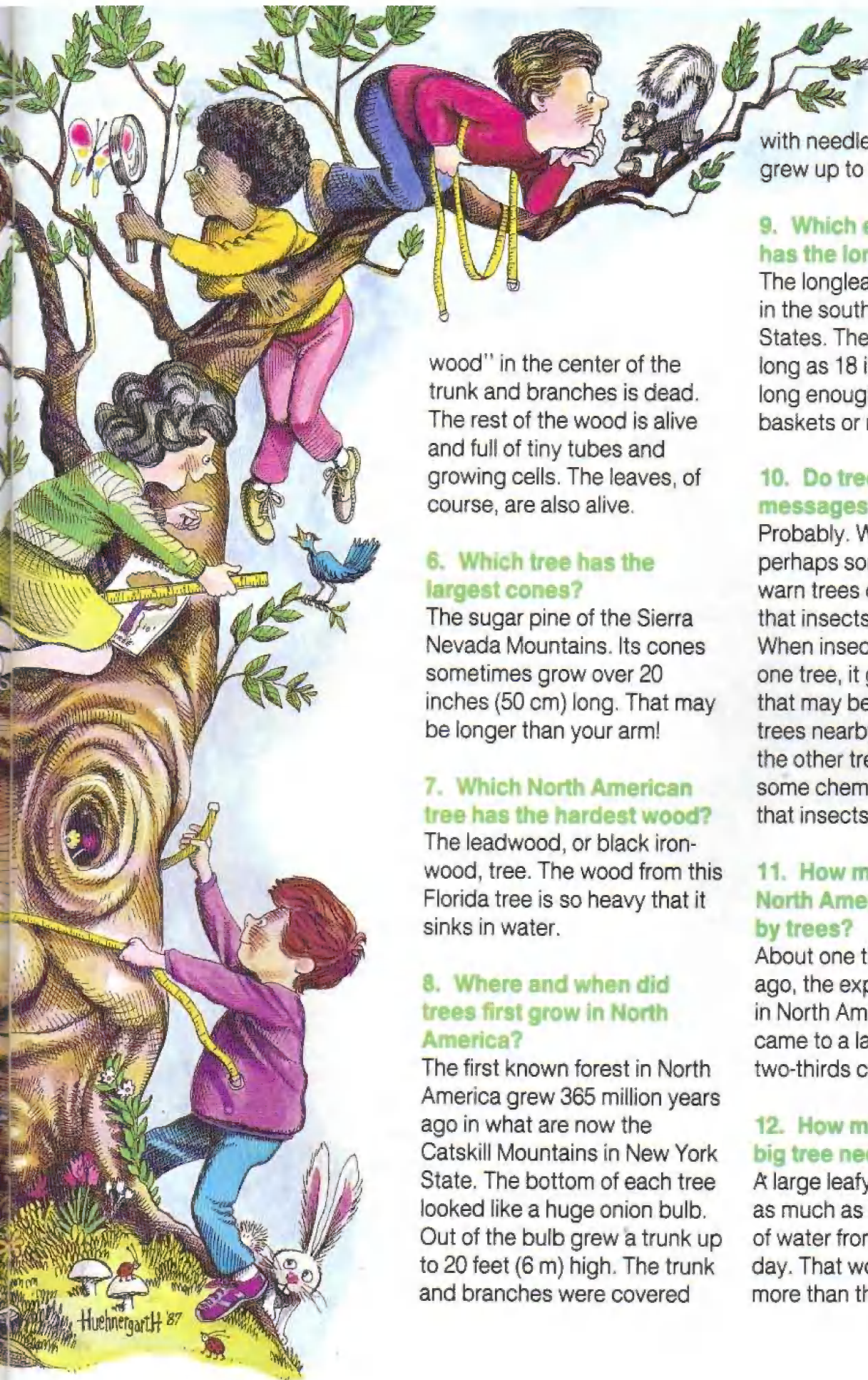
### 4. Which is the oldest tree?

The oldest known living tree is a bristlecone pine growing in California. It's at least 4600 years old. This ancient tree was growing when the Egyptians built the Great Pyramids.

### 5. Are any parts of a living tree not alive?

Yes. The outer layer of the bark is dead. It protects the tree from harm and keeps it from losing water. Also, the "heart-





Drawing by John Huehnergarth

with needlelike leaves that grew up to a foot (30 cm) long.

**9. Which evergreen tree has the longest needles?**

The longleaf pine that grows in the southeastern United States. The needles grow as long as 18 inches (45 cm)—long enough to be woven into baskets or made into brooms.

**10. Do trees ever send messages to each other?**

Probably. Willow trees, and perhaps some others, may warn trees of their own kind that insects are on the attack. When insects start nibbling on one tree, it gives off a scent that may be picked up by other trees nearby. The scent tells the other trees to quickly make some chemicals in their leaves that insects don't like.

**11. How much of the land in North America is covered by trees?**

About one third. But 500 years ago, the explorers who arrived in North America from Europe came to a land that was about two-thirds covered by trees.

**12. How much water does a big tree need?**

A large leafy tree may take up as much as 240 gallons (900 l) of water from the soil every day. That would fill a bathtub more than three times! 🐼

wood" in the center of the trunk and branches is dead. The rest of the wood is alive and full of tiny tubes and growing cells. The leaves, of course, are also alive.

**6. Which tree has the largest cones?**

The sugar pine of the Sierra Nevada Mountains. Its cones sometimes grow over 20 inches (50 cm) long. That may be longer than your arm!

**7. Which North American tree has the hardest wood?**

The leadwood, or black ironwood, tree. The wood from this Florida tree is so heavy that it sinks in water.

**8. Where and when did trees first grow in North America?**

The first known forest in North America grew 365 million years ago in what are now the Catskill Mountains in New York State. The bottom of each tree looked like a huge onion bulb. Out of the bulb grew a trunk up to 20 feet (6 m) high. The trunk and branches were covered

Huehnergarth '87

# THE CASE OF THE BUNGLING BURGLAR

The police were baffled. They had no idea who had chopped away at the Pyles' window. It was up to Lea and Ted to find out who the burglar was!



by Robin Pulver

"Somebody's been swinging at our window with an ax," Lea Pyle exclaimed.

"What are you talking about?" her brother Ted asked. Then he saw the battered window frame Lea was pointing to.

Ted and Lea looked at each other.

"We'd better tell Mom and Dad. I'm sure they'll want to call the police!" said Ted.

Before long two police officers arrived.

"We had just come home from vacation when the kids spotted this damaged window," Mrs. Pyle explained.

"Whoever did this isn't an expert burglar," said one officer. He carefully examined the damaged window and the wood chips on the ground. "You must have scared him off when you drove in. It's a good thing you kids noticed this. We haven't had any reports of burglaries in this area, but we'll keep a close watch for a while."

**The next morning** as Ted and Lea ate breakfast, they heard a loud knocking from the back of the house. Both kids jumped to their feet.

"The burglar!" said Ted. "And Mom and Dad have already left for work!"

Lea frowned. "What kind of burglar breaks in at breakfast time?"

Hiding behind the bedroom curtains, they peeked out the window.

Ted drew in his breath and stared.

"Incredible," whispered Lea.

Perched on the window frame, slamming away at the wood with its beak, was a big bird. It was black with white neck stripes and a flaming red crest. Pieces of wood were flying helter-skelter.

Ted and Lea laughed as they breathed a sigh of relief. "A bird burglar!" Lea said.

Although they were having fun watching the spectacular bird, they knew the window frame couldn't take many more swings of

that powerful beak. They rapped on the window and shouted at the bird. "Get! Go away! Go peck on a tree!"

The bird's wings flashed white as it flapped away from the window and disappeared into the woods. *Kuk-kuk-kuk*, it called.

Ted and Lea ran to the den and began flipping through the pages of a bird book.

"Here it is," Lea announced finally. "It's a pileated [PIE-lee-ay-tid] woodpecker."

"But why would a pileated woodpecker go after our windows?" Ted asked.

**After school that day**, Lea and Ted went out into the backyard to play. They found another battered window frame.

"If that woodpecker keeps at it, there won't be a whole window left anywhere in the house," Lea groaned.

"You're right," Ted agreed. "We need to think of a way to stop that bird." He was quiet for a few minutes and then he said, "I've got an idea that just might work."

Ted asked Lea to listen on the extension phone while he dialed the science museum in the city.

"Hello," said Ted. "May I speak with a bird expert, please?"

Someone named Mr. Dobson got on the line. He listened carefully as Ted and Lea told him all about their trouble with the pileated woodpecker.

Mr. Dobson told them, "Woodpeckers don't knock on wood just for fun. They usually choose a place where insects live. My guess is that you live in an older house, and insects have burrowed into cracks in the wood around your windows. The pileated doesn't care that it's your house. The bird just wants to find food."

Lea said, "That makes sense, except for one thing. We don't live in an old house."

"Yes," said Ted. "Our house is new. Our mom and dad just built it."



**Slowly Ted drew back the curtain. Then he peeked out and saw the “burglar”: It was a pileated woodpecker!**

After a pause, Mr. Dobson said, “Well, you’ve got me stumped. I’m going to have to do a little research on this one. I’ll get back to you as soon as I get more information.”

Ted hung up the phone. “Let’s take another look at those windows from the inside.”

They found no signs of insects. Then Lea remembered something. In the fall, on warm days just after the family had moved in, the windows were covered with flies. They looked like big, fat house flies, only they were more brown than black. They also moved a lot slower and buzzed a lot louder than houseflies. Dad said they were cluster flies.

The kids called Mr. Dobson again. “Hey, Mr. Dobson,” Ted said. “We were wondering if the woodpecker would go after cluster flies. We don’t see any flies now, but there were tons in the fall. They were all over the place.”

“Now you’re onto something!” Mr. Dobson sounded excited. “I’ll bet those cluster flies hid behind the weatherstripping around your windows in the fall. When it gets cold, cluster flies look for a dark, safe spot to hide in. Then they begin a resting stage called *diapause*. It’s a lot like hibernation.

“But now that it’s spring and the weather is warming up,” Mr. Dobson continued, “it’s time for the flies to get on with their business. The woodpecker probably saw the first flies come from your windows a couple of days ago. He’s been after the flies that were slow to leave—the ‘sleepyheads,’ you might say.”

“But what can we do to protect our windows?” Lea asked.

“I expect that by now all of the cluster flies have left, but we can’t be sure. The woodpecker may find a few more tomorrow.”

When Mrs. Pyle came home, Ted and Lea explained what Mr. Dobson had said. “Well, that’s good news,” she sighed. “But how are we going to make sure the bird doesn’t come back tomorrow?”

“I know,” Lea said. “We can string shells and sticks to make wind chimes. Then we’ll hang them next to the windows.”

Either the wind chimes worked or the woodpecker gave up on the flies, because he didn’t return to the windows.

**Hiking in the woods the next week**, Lea and Ted came upon an old tree trunk with large holes. They felt sure these holes were the work of the pileated.

“Our burglar’s been here,” said Lea as the sound of a distant drumming floated toward them through the trees.

“Now, Lea,” said Ted, “you know that’s no burglar. He’s just our new neighbor—who invited himself to dinner!” 🦉



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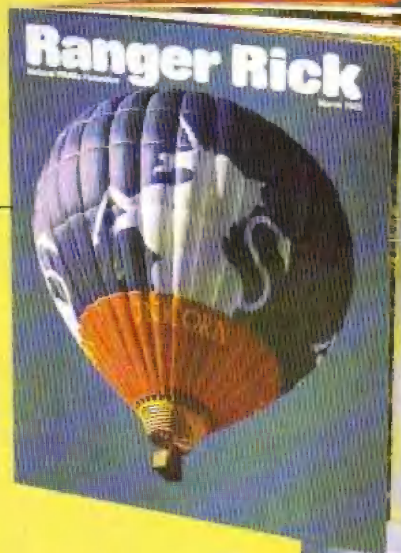
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# Dear Ranger Rick,

**Last March you met "The Bone Hunter," a scientist who searches for bones of animals that lived long ago. Now here's a letter from someone who looks for skulls of modern animals near her home.**

Some people think skulls are spooky. But I don't! I collect skulls. All you need are sharp eyes and some luck to spot these bony treasures.

I started collecting skulls about three years ago. I was walking on our farmland when I saw a skull lying at the bottom of a tree. I picked it up and felt the shape of the head and touched the teeth inside the jawbone. I wondered what kind of animal it had come from. The next day I found a book about mammals at our public library. It had a picture of a raccoon's skull that looked just like the one I had found.

My next discovery came in the spring. Near an old, rotten log I saw a huge skull with horns! A farmer said it was from a cow that had probably become *feral*. That means it had wandered off

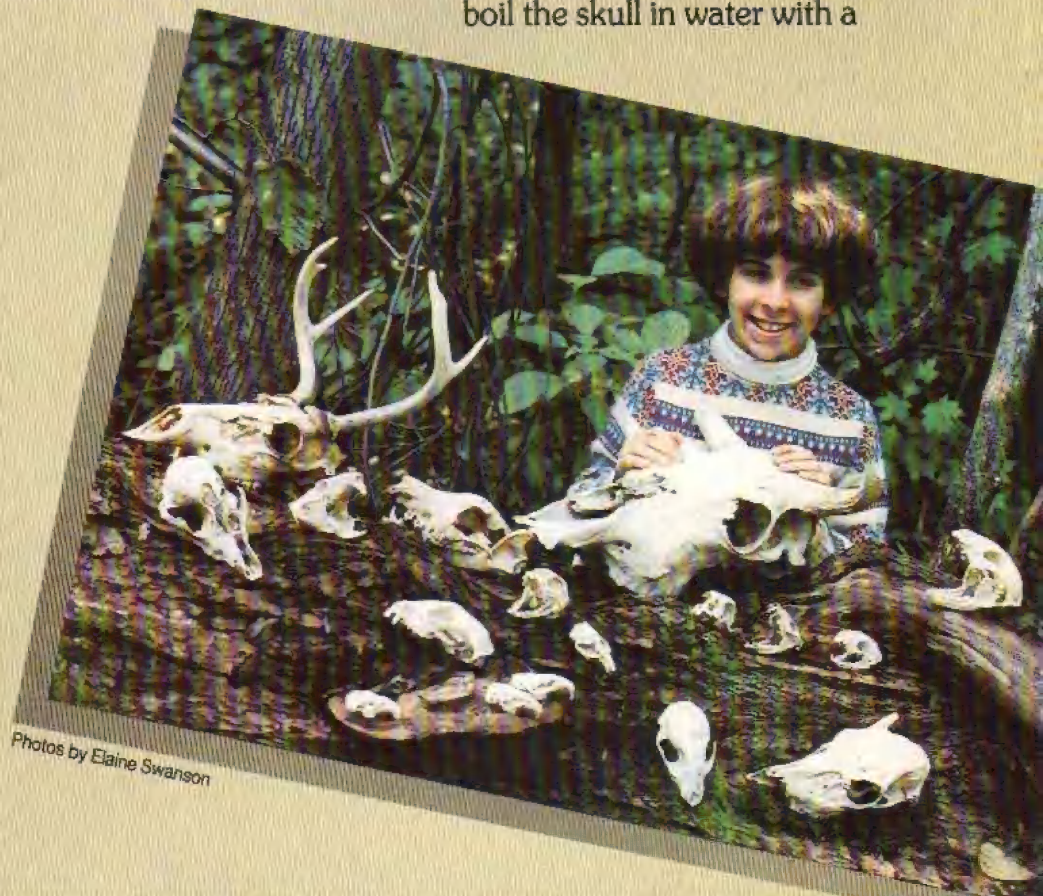
from its herd, become wild, and lived in the woods.

Soon my parents started helping me with my collection. They surprised me on my birthday with a gift-wrapped skunk skull! Dad had seen the dead animal lying beside the road and had kept an eye on it for several weeks. During that time the sun, spring rains, and animals that eat dead meat had naturally cleaned the bones.

*[Rangers: Be sure to read safety tips at the end of this letter before collecting skulls of your own!]*

My collection was growing and so were my questions about skulls. So Mom took me to the University of Wisconsin to visit a scientist, Dr. Dirst, who studies animal bones. Dr. Dirst showed me her collection of animal skeletons. She also gave me advice about how to clean skulls, label them, and carefully glue loose teeth back into the jawbone.

Shortly after my visit with Dr. Dirst, a friend gave me the head of a white-tailed deer that still had some skin attached. To clean it, I had to boil the skull in water with a



Photos by Elaine Swanson



little laundry detergent. (When Dad came home and saw the antlers sticking up out of the kettle, he wanted to know what kind of soup we were having!) The boiling loosened the skin so I could clean it off with a soft brush. Then I removed the brain with tweezers.

Later in the summer, I had a chance to clean an entire skeleton. My family drove past a dead groundhog lying on the road. I knew it would be a great addition to my collection. So we stopped, wrapped the body in a plastic bag, and put it in the trunk of the car. We had to hold our noses during the ride home!

I called Dr. Dirst to find out

how to clean the groundhog's skeleton. She suggested that I lay the body on a plastic bag on the ground. The bag saves small bones and teeth that otherwise might be lost in the dirt. Then she told me to cover the groundhog with a screen held down with bricks. That way, scavengers such as crows couldn't tear the body apart. But maggots could still reach the body and clean it. Sure enough, in a few weeks I had a clean skeleton—and a new skull for my collection.

When I had collected a dozen different skulls, Mom and I prepared them for a display at the public library. We wrote the animal's name on each skull with India ink. Then we brushed clear nail

polish over the letters so they wouldn't smear. We typed information about each animal on index cards and attached a picture of the animal. Then we arranged the skulls in the library's display case. We added dried leaves, moss, and rotten wood. The skulls looked right at home!

Since that first exhibit, my skulls have been displayed at two nature centers in my state. And I've added otter, fox, and opossum skulls to my collection.

If you'd like to collect bony treasures too, start searching for them in woods, fields, streams, and rock piles. Before you know it you may have a collection that's even bigger than mine!

Danika Swanson  
Pickett, WI

**Thanks for telling us about your terrific skull collection, Danika.**

**You've given us some good tips. I'd like to add a few tips of my own about collecting skulls safely:**

- Before you begin collecting skulls, call your local game warden or wildlife officer. (Look for the number under the local government offices in the telephone directory.) Ask if it's OK for you to collect bones of any animal you find. In some states it might be against the law to

collect certain animal skulls from certain places.

- *Don't pick up animals that have died recently!* Danika was careful when she handled the groundhog, but she took a big chance: Some disease-causing germs live in an animal even after it has died. Instead of picking up a dead animal, write down exactly where you saw the body. Then, after a few weeks, go back to look for the skeleton. If you're lucky, as Danika's father was with the skunk, you'll find a skull that's already clean!

- Whenever you need to boil a skull, *always ask an adult for help.* The water and bones will get very hot and could burn you.

- Boil a skull *outside* your house whenever you can. This will keep bad smells out of your kitchen!

- *Always use gloves when picking up a skull that hasn't been cleaned.*

- If you want to make a skull whiter, try soaking it for a few days in cold water and a bit of bleach (¼ cup bleach per gallon of water).

- Danika used this book to identify her skulls: *A Field Guide to Mammals* by Burt and Grossenheider. You can probably find it and other animal field guides in the public library.

Happy collecting! R.R.

# SKULL SCRAMBLE



**Beaver, bobcat,  
raccoon, rabbit:  
Which skull is  
which, and  
which isn't  
here?**



**Answers:** Top—bobcat; Middle—rabbit; Bottom—beaver. There is no raccoon skull.



# Adventures of Ranger Rick

Story by Rhonda Lucas Donald

Drawings by Alton Langford

*Vrrrooommmmm* . . . a bright red sports car whished along, leaving a breeze of swirling leaves in its trail. On down the road, Zelda Possum poked across the pavement, her five babies clinging to her back. Zelda knew she was late for an early morning meeting in Deep Green Wood—a meeting about this very road she was crossing. It had become the unhappy scene of a lot of animal deaths lately, and Ranger Rick, Scarlett Fox, and the rest of the gang were going to do something about it! But right now, Zelda could smell chocolate, and she just *loved* chocolate. Lots of times people toss food from car windows, leaving a great snack for a hungry creature.

*M-m-m-m-m, nothing like candy*, thought Zelda, munching the squashed bar she finally found in the middle of the road. Suddenly she heard the roar of an engine. When she looked up she saw a car racing toward her.

"Uh-oh, time to get outta here!" Zelda said, scrambling across the road. "Just a few more inches . . .," she gasped as she leaped to the roadside. But she wasn't quick enough to escape a whack from the car's front wheel.

*Zing!* Five little possums flew into the ditch.

*Bonk!* Zelda landed headfirst on the hard ground. She was out cold.

The five little possums—Pete, Pansy, Polly, Plato, and Dweezel—all got up and dusted themselves off.

"Whew! Some ride, huh?" said Pete.

"Quite an excursion," agreed Plato, the "brain" of the group.

"Even after an accident, Plato still sounds like an encyclopedia," said Pansy. "Is everybody OK?"

"I think so," said Polly. "But wait a minute—Dweezel looks a little funny."

"Dweezel always looks funny," joked Pete.

"Yeah, but now he's walking around in circles and repeating everything," said Pansy.

" . . . retreating ding-a-ling," said Dweezel, who was starting to look even dizzier.

"He must've really conked his noggin," said Polly. "Hey! What about Mom?" she yelled.

Five pairs of possum eyes flew wide open—they had never been away from their mother before. Even Dweezel seemed worried.

The little possums quickly found Zelda, but she was very, very still. They were afraid to go near her, fearing the worst.

"Mom?" whispered Pansy. "You OK? . . . Oh, no. She's not saying anything!"

Plato leaned close to her.

"She's still breathing," he said, "but she needs help."

"Let's get Mom's friend Ranger Rick," suggested Polly.

"Yeah, he'll know what to do," said Pete.

"Polly—you, Dweezel, and I can stay here with Mom while Plato and Pansy go find Rick."

"Maybe Dweezel should go with them. I don't think we can watch him and Mom too," said Polly. She pointed to Dweezel, who had just walked—*clunk!*—into a tree trunk.

"I guess you're right. Plato, you'd better take Dweezel with you," said Pete.



"If you think that's wise," said Plato.

"... pink gnats' eyes," Dweezel said, bumping into his brother.

So the three set off for Deep Green Wood and Rick's hollow oak tree.

While Polly and Pete waited with Zelda, many more cars whizzed past.

"Mom always told us to be careful," said Polly. "But I guess she just couldn't resist that chocolate bar."

"There's always good squashed stuff to eat out there," said Pete. "But the trouble is, if you go out to eat it, you're likely to end up being

squashed stuff yourself."

"You're not kidding. Anyway, I hope Ranger Rick gets here soon," said Polly.

Meanwhile, the other little possums were slowly making their way to Rick's.

"Will we be there soon, Plato? I'm worried about Mom," said Pansy.

"We're getting close," he answered.

"It's hard to go very fast with Dweezel running into trees and stuff. He's so dizzy, he's making me confused. Are you sure we're going the right way?" asked Pansy.

Just then, around a turn in the path, Ranger Rick appeared.

"Hi, kids. I was just looking for you and your mom. It's not like her to miss a meeting. Hey, I didn't think you all were big enough to be running around on your own yet," he said.

"We're not, Mr. Rick! But we've got real trouble!" said Pansy.

"Where's your mom? And what's wrong with this little guy?" asked the raccoon. "He's going in circles!"

"... sewing in purples," said Dweezel.

"Our mother is alongside the road a short distance from here—you see, we were all

victims of an automobile accident," explained Plato in his usual big words.

"Mom won't wake up. And Dweezel's been going in circles and talking stupid ever since," said Pansy.

"Oh, no!" Rick groaned. "Not Zelda! Not another road accident. Listen—you kids head back through those walnut trees and find Scarlett Fox. We may need her help. I'll go see what I can do for Zelda."

By the time the three returned with Scarlett, Rick had carried Zelda away from the roadside. He had placed her in a soft bed of grass and leaves. Scarlett began to gently wipe her fore-



head with a damp cloth.

"She's comin' round now," said Scarlett.

"She'll be all right, kids," reassured Rick.

Then a very fuzzy-eyed Zelda looked around at each of her youngsters. "You kids OK? Oh, hi, Rick and Scarlett. Sorry about this—guess I wasn't fast enough this time," sighed Zelda.

"We're OK, Mom. Don't you worry," said Pete. Zelda smiled and snuggled her babies.

"Accidents like this happen on roads every day," said Rick to Zelda. "But most animals aren't nearly as lucky as you and your kids."

"... floor lids," repeated Dweezel.

"Well, *most* of you were lucky, anyway," Rick said, looking at poor Dweezel. "If only people were more careful not to speed and would watch out for animals."

"Well, we're going to be on the watch for cars from now on," said Polly.

"Yeah, Mama didn't raise us to be road kills!" added Pete.

"We shall certainly brush up on our evasive maneuvers," said Plato.

"... erasive manures," chimed in Dweezel.

"Hey! Why don't we do something to warn drivers to look out for animals," suggested Pete.

"That's a great idea!" said Rick. "We can call the highway department and ask them to post animal crossing signs."

Just then Dweezel stopped walking in circles.

"Animal crossing signs," he said.

"Hey, did you hear that? He's OK!" shouted a happy Pansy.

"Oh, I'm so glad," said Zelda, squeezing the smiling little possum.

"Me too," said Plato. "I feared that he had dysfunction beyond repair."

"Dis-what beyond repair?" questioned a puzzled Polly. "Gosh, Plato, you're going to give us *all* Dweezel-itis."

"At least this time it's not from a run-in with a car," chuckled Scarlett. "It's just from a run-in with Plato!" 🐾

## MILLIONS AND MILLIONS

About twelve wild animals and pets die on roads in the United States every second. That adds up to about a million animals killed every *day*.

### Why Do Animals Cross the Road?

Animals cross the road for the same reasons they go anywhere else: to find food, shelter, and mates. Sometimes they go looking for food that people toss from their car windows, the way Zelda did in our story. And once a car kills an animal, other animals come to feed on it.

Sometimes animals are separated from breeding ponds or good nesting spots by highways cutting through their habitats. In any case, roads are often built across natural animal trails. And that leads to many road kills.

### What Can You Do?

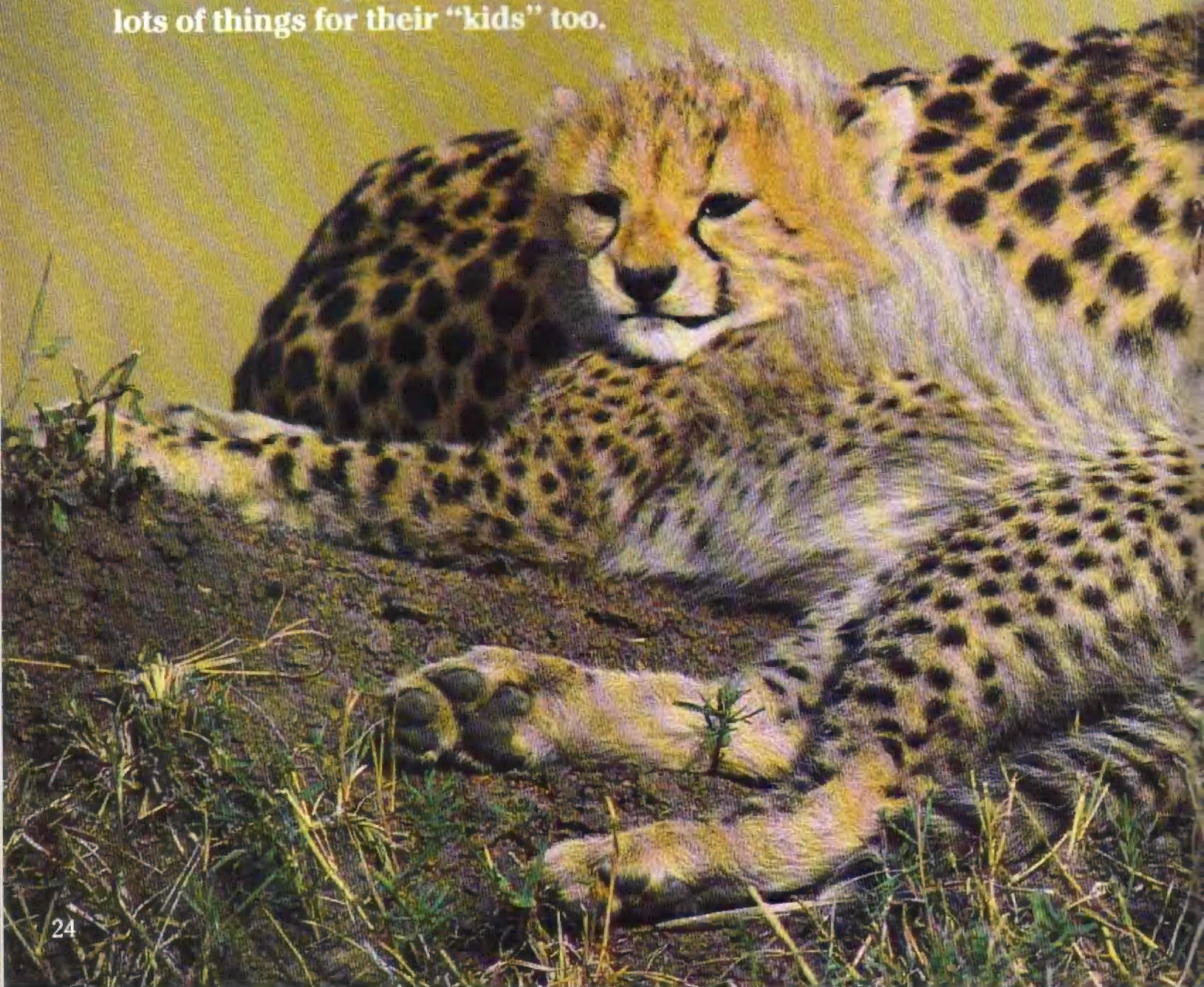
Here are a few ideas to help cut back on the number of animals killed on the roads:

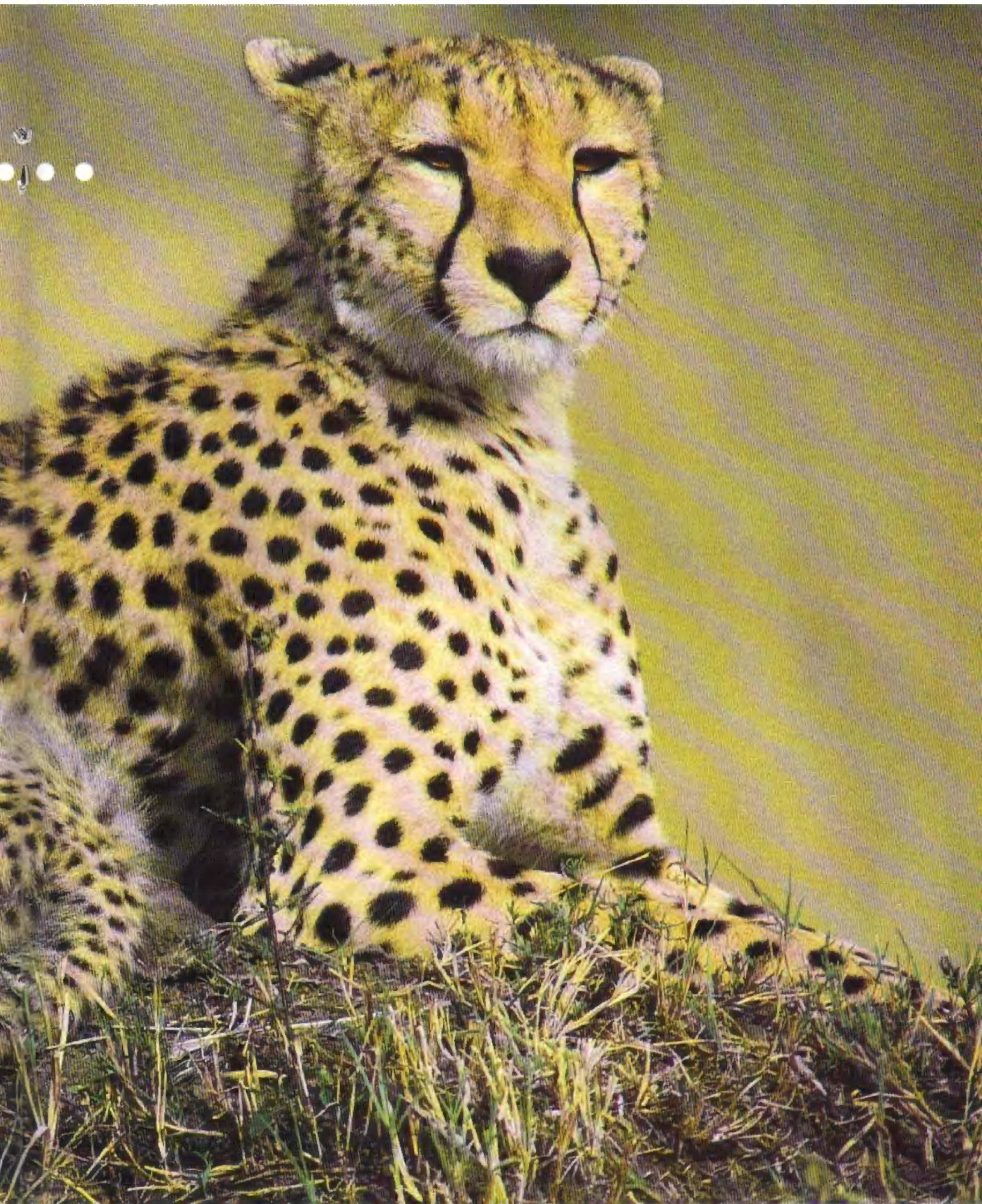
- Never throw food or anything else from the car. Not only are you littering, but you may also be luring an animal to its death.
- Don't let dogs or cats run loose. If they can't get to the road, they can't get hit.
- Call your state highway department to let them know of areas where animal crossing signs should be posted.
- Keep an eye out for animal crossing signs. And ask people you are riding with to slow down a little, especially near meadows, wetlands, or woodlands. The slower they are traveling, the more time they have to avoid an animal accident.

# Mom's always there.

by Betty Blair

**Mother's Day comes only once a year. But the things your mom does for you when you're young will mean a lot to you every day of your life. This isn't just true for you. Cheetah moms (shown here) and bison moms and many other animal moms do lots of things for their "kids" too.**







## ...when you're hungry

How is your mom like the gorilla mom on the back cover? Your mom may have nursed you when you were a baby just as this gorilla mom is doing.

The only mothers who make milk are mammals. The milk is made by special glands. It usually comes out of nipples—although a platypus's milk oozes out of slits on her belly. Most mammals have twice as many nipples as they usually need. For example, an elephant has two nipples and usually one baby.

When it's time to nurse her young, a brown bear (**photo at left**) may lie down or sit up. A bison (**top right**) stands when her calf drinks. And a manatee nurses her young underwater. Her baby drinks from nipples in her armpit!

A shrew nurses her babies for about 20 days, probably the shortest time of any of the mammals. A red fox mom nurses her young about five weeks. Then, with the help of her mate, she does what wolves and coyotes also do. She brings prey to her young (**bottom right**). Some humans nurse their young five years. This may be the longest nursing time of all.



Photos by Jonathan Scott/Planet Earth (24-25); Kennan Ward; Mark Lagerstrom; Stephen J. Krasemann/DRK Photo

# ...when you need a ride



When you were small, your mom probably took you to the supermarket with her sometimes. A red bat (**below right**) often takes her babies with her when she hunts for food. The babies—and there may be four of them—cling to Mom's nipples with their teeth.

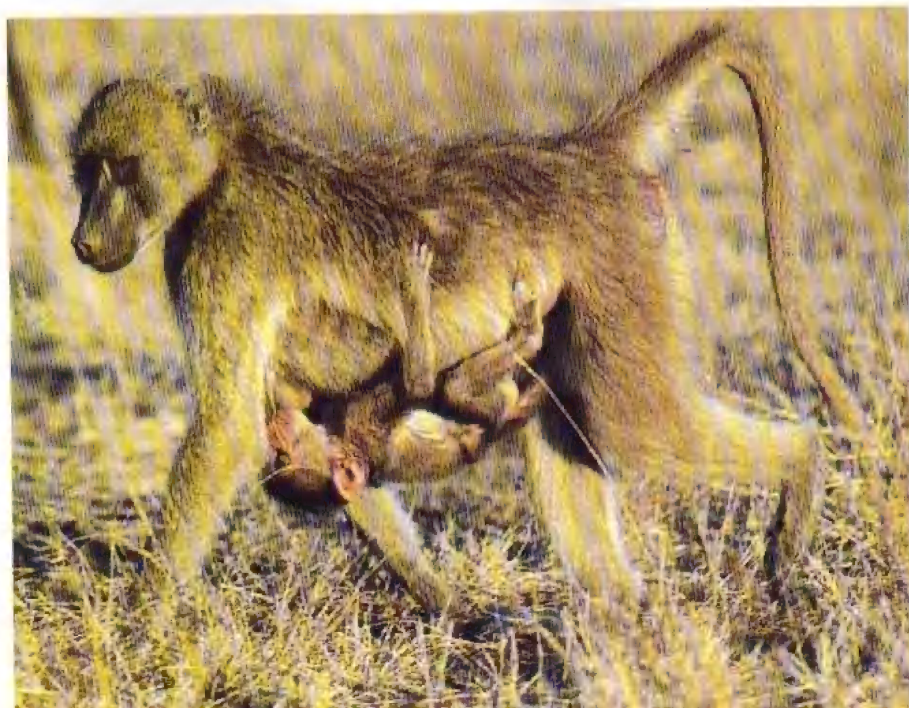
A baboon baby (**below left**) hangs on to Mom's belly while she hunts for spiders and other things to eat. When a kangaroo mom (**see the front cover**) looks for food, her baby rides in her pouch. A mother koala (**right**) needs to keep her hands free to pick leaves to eat. Her baby rides in a pouch for seven months. Then it rides piggyback for four more months.

In an emergency, some mammal mothers will grab

their young and carry them to safety. For example, if there is a fire, a giant anteater heads for safety with her baby on her back. A mother lion (**left**) will pick up her young cubs, one by one, in her mouth and move them to a safe place.

When her den is flooded, a mother otter or bear may pick up her young in her mouth. Then Mom carries her young to a dry spot.

Sometimes a new shopping center or housing development may be built in the woods where a mother opossum has her nest. The baby opossums ride on Mom's back while she hunts for a new home. If a young opossum falls off, Mom may not notice. The youngster is left to try to survive on its own.



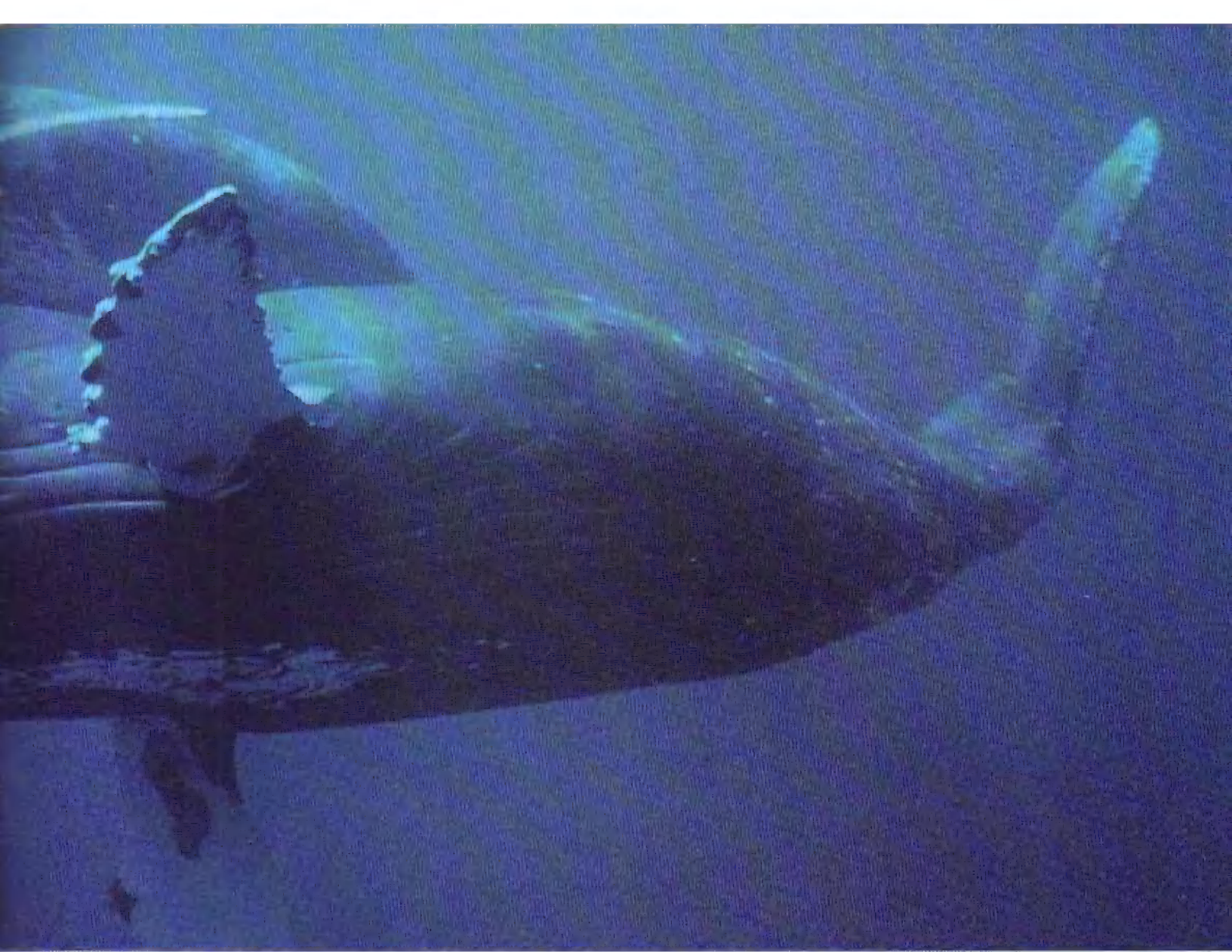


...when  
enemies  
are near



Photos by Johnny Johnson, Flip Nicklin, Jonathan Scott/Planet Earth





What would you do if you knew hungry creatures would like to gobble you up for dinner? If you were a young Dall sheep (**far left**), you would stay near Mama. Or if you were a very young humpback whale (**above**), you could swim close to your watchful mom. If an enemy came near, Mom would sound an alarm. Then you'd do what most mammals do: You would flee!

If you were a newborn wilde-

beest (**left**) or giraffe, you would be too young to keep up with the rest of the herd. Your mom might stay and fight to protect you.

But if you were a young deer or moose and an enemy came near, you wouldn't even try to run. You would "freeze." Your mom would have hidden you in a spot where your coat blended with the forest floor.

A pangolin is an anteater that's covered with scales.

When an enemy comes close, Mom places her baby on her belly and curls up in a ball. The big, tough scales on Mom's body and long tail help protect her and her baby.

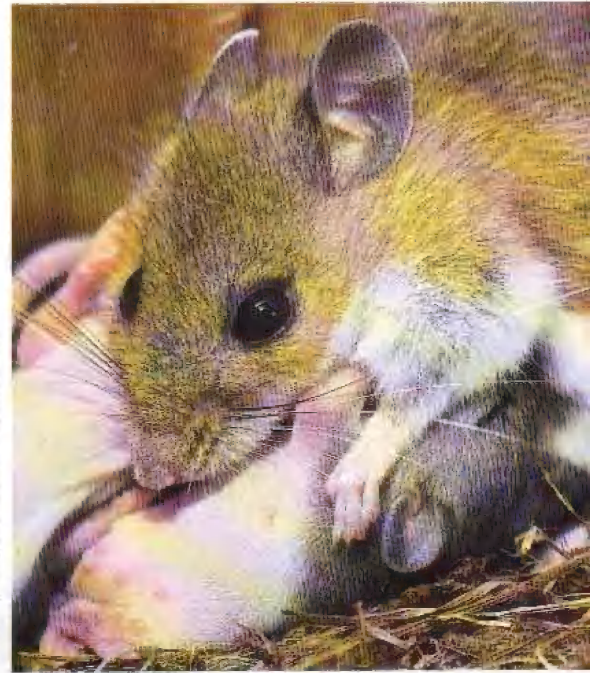
If predators come near a group of elephants or musk oxen, the adults stand shoulder to shoulder between their young and the enemy. Most enemies will give up trying to catch a calf and go look for easier prey.



...when you need a bath



Photos by Wolfgang Bayer, Dwight R. Kuhn

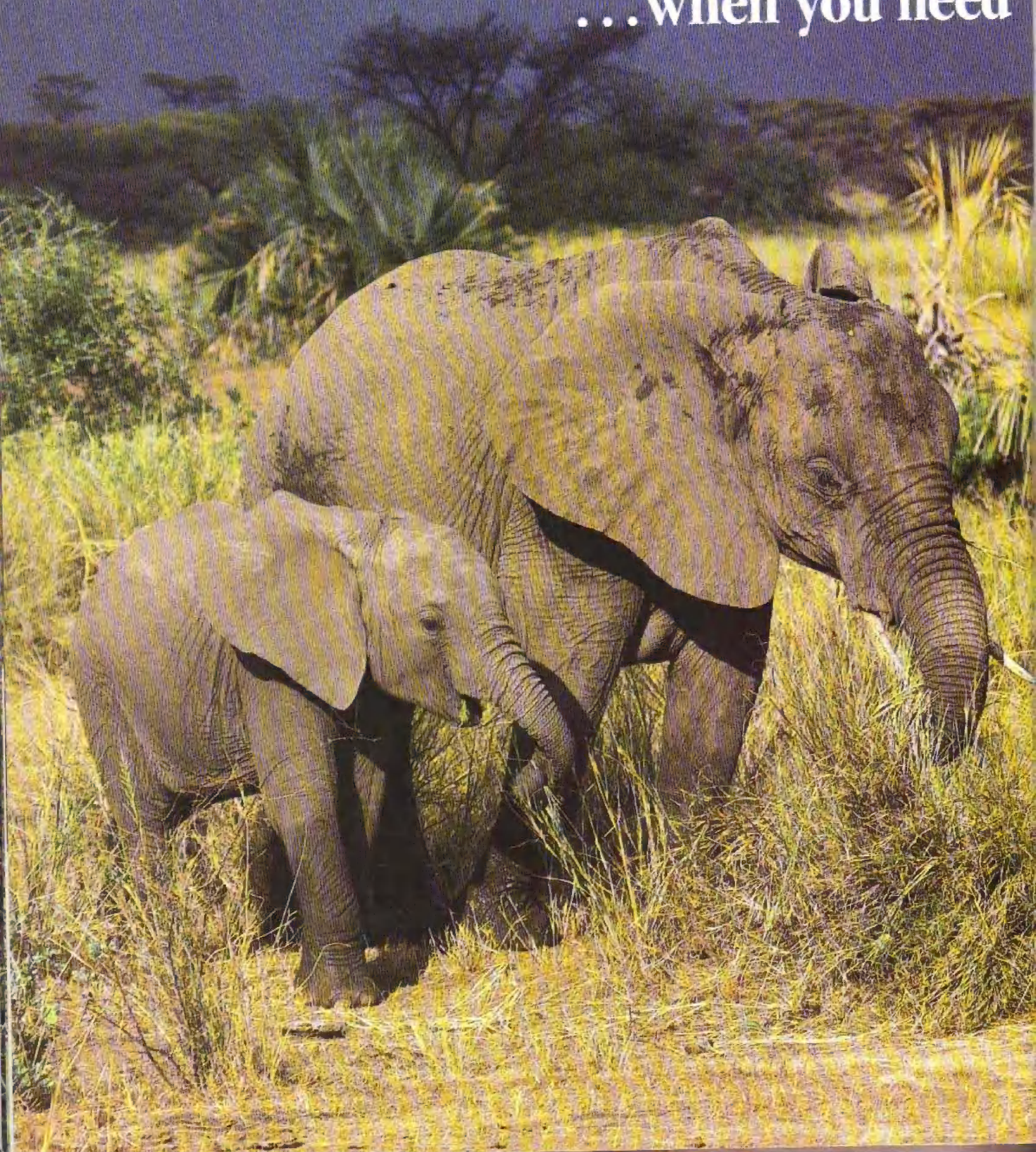


When you were born, a nurse probably wiped you with a clean cloth. But like most mammal mothers, a mouse mom licks her newborn babies clean. She hasn't been taught to do this: It just comes naturally. As she is licking each one, she is putting her own smell on it. From that time on, most mothers can tell with one sniff (**above**) whether a baby is theirs.

Cougars (**left**), lions, tigers, foxes, and wolves lick their youngsters' fur often. Clean fur is fluffy. It doesn't get matted or bunched up, so the animals stay warmer in winter.

Monkeys and apes help to keep their babies healthy by picking off lice, ticks, and dead skin with their fingers.

...when you need



# to learn the ways of the world

An elephant baby (**left**) is the largest baby that lives on land. But this big baby, like most young mammals, needs Mom's help to learn many things. Mom shows it how to suck water partway up its trunk and then squirt the water into its mouth. But sometimes the calf sucks water up too far and chokes on it!

Other young animals make mistakes too. For example, a wolf pup just learning to hunt may try to grab a prickly porcupine. So Mom has to teach it to catch safer prey.

Mother raccoon (**top right**) stays close by when her cubs are learning to catch frogs and fish with their front paws. A mother moose shows her calf where to find tasty leaves to eat. Like a mother bighorn sheep or mountain goat, she may also play a butting game with a male calf (**bottom right**). This game helps the calf learn to fight, which will come in handy when it's time to win a mate.

Some mammals, such as female elephants, stay near their moms all their lives. But most leave home as soon as they're old enough. Their moms seem to know it's time for them to see the world! 🐾



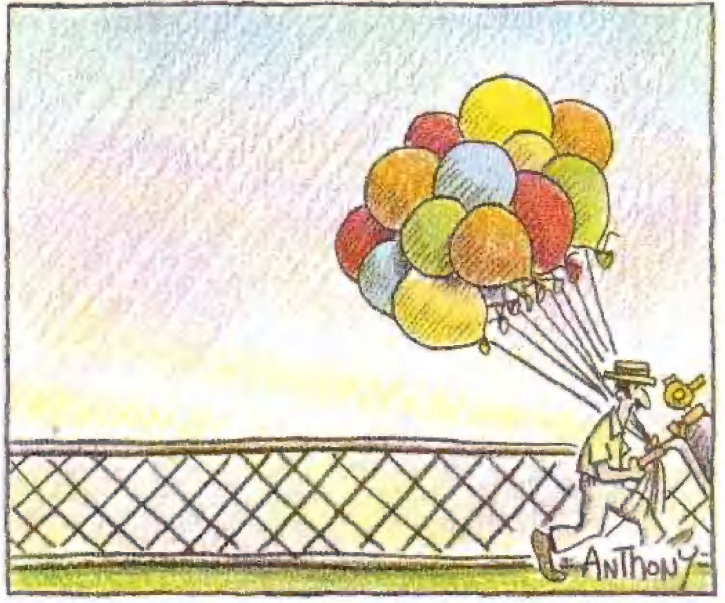
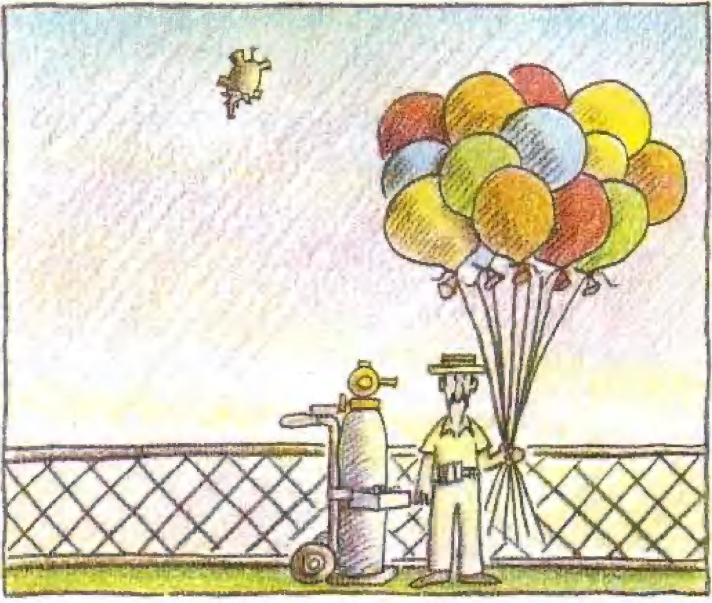
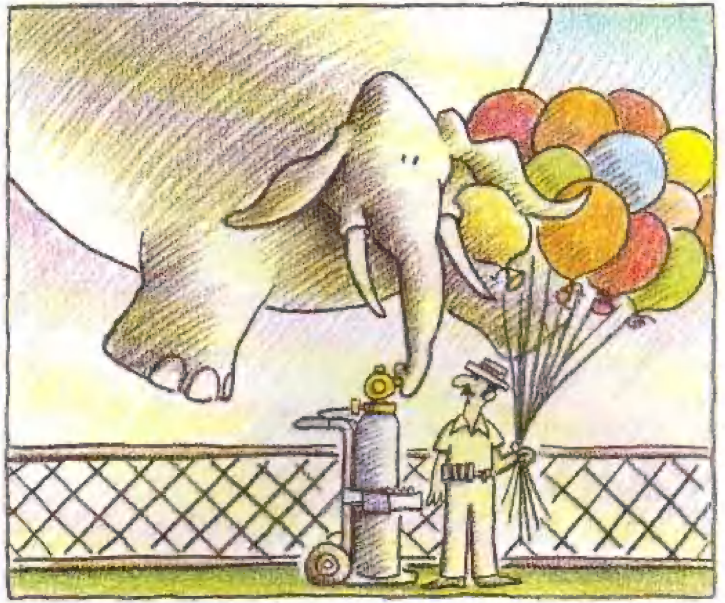
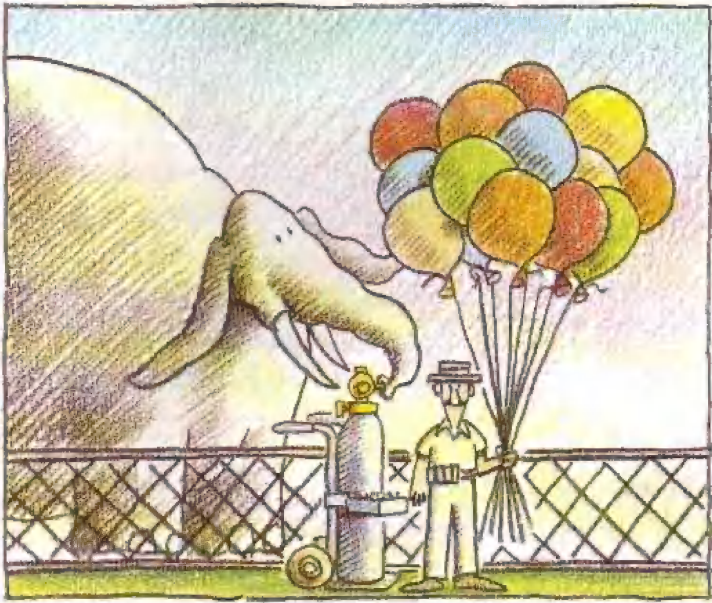
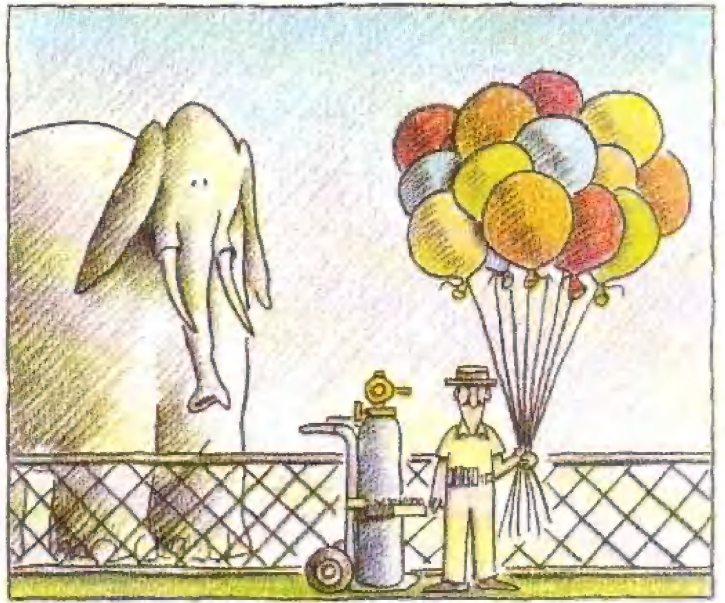
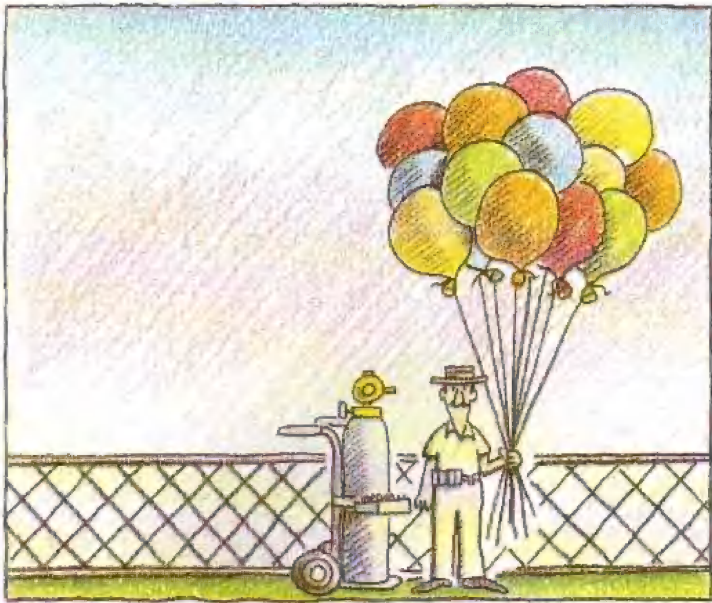
Photos by Breck P. Kent, Wolfgang Bayer, Stephen J. Krasemann/Vaian Photos



# Critter Crackups

by Anthony Taber





# Grin...

What makes a frog happy?  
**Finding a fly in its soup**

Finding what seashell could  
make you a bit richer?  
**a sand dollar**

Why did the snake go to  
school? **She wanted to study**  
**HISS-tory.**

What kind of floor does a  
snake like best? **repTILE**

How much did the electric eel  
pay for his batteries? **Noth-**  
**ing—he just charged them.**

Which animals never play fair?  
**CHEETahs**

Why don't grizzlies wear  
sunglasses? **They see better**  
**with their BEAR eyes.**

Which snakes do best in math  
class? **ADDers**

Which insects drop things a  
lot? **FUMBLEbees**

What game do small fish like to  
play? **doMINNOWS**

What do you sing to make a  
lamb sleepy? **"Rock-a-BAA**  
**baby"**

What do you get when you  
cross a young dog and a  
frozen juice bar? **a PUPsicle**

Why is a snake a messy eater?  
**It is a SLURPent.**

When is a skunk in love?  
**When it starts act-**  
**ing SCENTimental.**

What winter contest did the  
bear win? **the SLEEPstakes**

What is a snake's favorite  
magazine? **Good**  
**HouseCREEPing**

What would you call a stuck-up  
raccoon? **COONceited**

What is a camel's favorite fairy  
tale? **HUMPElstiltskin**



What do you call a lobster  
attorney? **a CLAWyer**

What flying mammal could  
have made the first American  
flag? **BATsy Ross**

What do you get when you  
cross an antlered animal and  
an eight-legged creature?  
**a spiDEER**

—Riddles by Roma Romanowsky, Shirley  
Nelson, Mary Grace Dembeck, and Ellis  
Stewart

**Answers to Bloomin' Bafflers, p. 9:**

9. jack-in-the-pulpit  
6. snowdrop, 7. dandelion, 8. bluebells,  
Susan, 4. prickly pear, 5. tiger lily,  
1. sunflower, 2. tulips, 3. black-eyed

# and Groan

# NATURE'S DISCOVERY SHELF

ESPECIALLY FOR MEMBERS



**Wood Mantis Craft Kit** helps show kids the intricate body of this insect. All parts of our easy-to-assemble kit snap together without glue. Sandpaper and instructions are included. Here's a gift that's educational—and fun, too.  
**22217** Mantis kit, 14" x 9" x 15"  
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**Songbird Dominoes Game** is just like the real dominoes but with birds instead of dots. Illustrations on heavy board stock. Easy instructions.  
**20024** Songbird Dominoes Game . \$6.50

**Do You Know: How Plants Grow?** Discover the "odd-balls," plants in danger, all about seeds, how we need plants, and how they need us. Colorful drawings show and teach you about this important natural resource. 32 pages, 7 3/4" x 10 1/2". Ages 7-14.  
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**Children's Dinosaur Dinner Set** will make every meal an adventure! Unbreakable melamine set includes 8" Stegosaurus plate, 12 oz. Tyrannosaurus bowl and 10 oz. Triceratops double-handled mug. Top rack dishwasher-safe.  
**21010** Dinosaur Dinner Set . . . \$14.50



The **Stegosaurus Kit** is easy to assemble. The replica model comes complete with pre-cut, punch-out wood pieces that interlock without glue. The "plated lizard" is approximately 16 1/2" x 9 3/4" x 3 3/4". Great for teaching dexterity, and for learning the biology of this fascinating creature.

**22215** Stegosaurus Kit . . . \$10.95



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**Animals, of Course!** by Jill Bailey. Here are 4 board books that ask you to guess, by looking at the Noses, Eyes, Mouths, or Feet, what animal it is. Funny, big photos. Each, 5 1/2" square. For ages 2-5.  
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**Bluebird House Kit** is fun to build and educational. Made of pre-cut, pre-drilled white cedar wood. No finishing required. All you need is a hammer. Ages 8 and up.  
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The **Peep-Through Set** by Yvonne Hooker. This wonderful set of 3 books includes *I Am An Owl*, a guessing game; *The Little Green Caterpillar*, about food for wildlife; and *One Green Frog*, about learning numbers. Each sturdy page has holes cleverly placed for peeping through. Spiral bound, 9 1/2" x 8 1/2". Ages 2-5.  
**62172** Set of 3 books . . . \$20.85



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# Bright Berry Baskets



by Kathleen Almy

Need a great gift for someone special—like Mom on Mother's Day? Then weave these brightly colored baskets!

## Here's what you need:

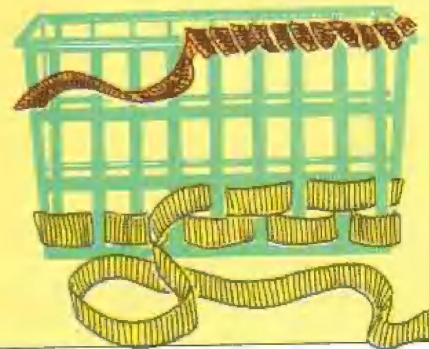
- a pint-sized plastic basket (the kind that berries come in)
- 3 to 6 strips of ribbon, each 16" long and about 1" wide, depending on the size of the openings in the side of the basket you use
- ruler, scissors, glue

## Here's what you do:

- Starting at the bottom of the basket, weave one of the strips of ribbon in and out of the holes along all four sides of the basket (see drawing).
- Overlap the ends of the ribbon and glue them together.
- Continue weaving each row until you get to the top of the basket. When you finish a row, don't forget to glue the ends of the ribbon together.
- To add the top edge trim, wrap a strip of ribbon around

the top of the basket as shown. When you get back to the start, overlap the ends of the ribbon and glue them together.

- Line the basket with foil, put nuts or a plant in it, and surprise someone special.



Story and photos by P. Dee Boersma

# I LIVE IN PENGUIN CITY

**Next fall when you're starting school, I'll be in "Penguin City." I'm a scientist, and every year when penguins like this one hatch, I'm right in the middle of them.**

Penguins and snow don't always go together. These chubby Magellanic (maj-uh-LAN-ik) penguins are more at home in sand than snow. When they come ashore, they walk across a cool, dry beach in South America.

These birds are just a little bigger than a newborn human baby. They build their nests in many places along the coasts of Argentina and Chile. Every year at nesting time, I go to study them at a place called Punta Tombo (see map next page). Many other scientists come to Punta Tombo to study them too.

We're finding out what the birds need to stay healthy. We're also discovering better ways to protect their land and water. Studying them is fun—and a lot of hard work.





The dark blue areas on the map show where Magellanic penguins are in spring. Most come to beaches like the one above to nest.



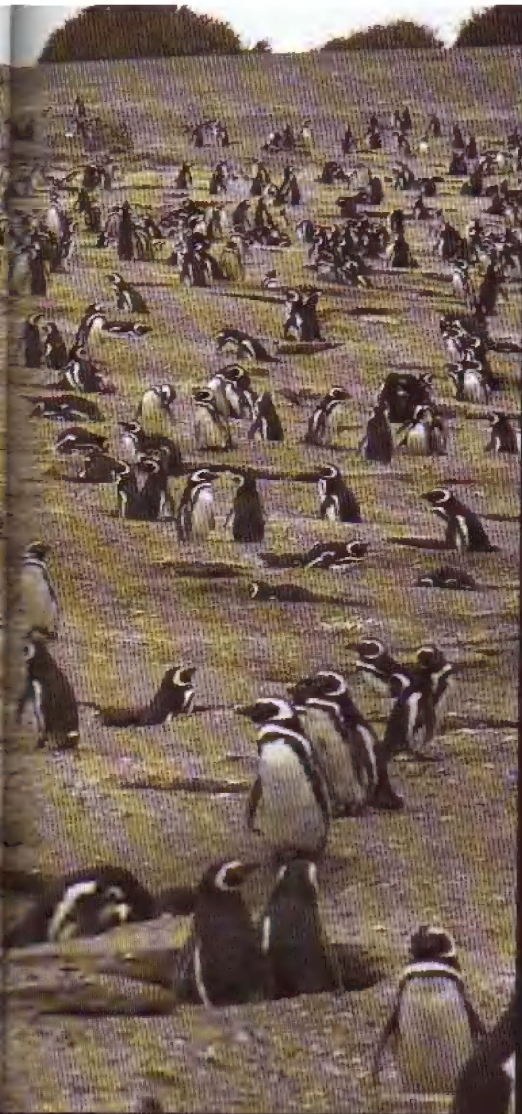
### The Noisy Season

The penguins start arriving in September. (It's spring at that time in South America.) First the males scramble up the beach. Then they fight over empty burrows or stand under bushes where they want their nests to be.

The females arrive in late September and wander among the male penguins. The males then make noises that mean, "Pick me, pick me!" Sometimes they bray like donkeys: *heehaw, heehaw!* At other times they

make noises that sound like *humph*. They even sing, but not very well. At night the air is full of the sounds of thousands of males singing in different keys. To me they sound like a bad orchestra tuning up!

By October most of the female birds have chosen their mates. The penguin pairs stand close together and *preen*, or comb, each other's feathers. Then the females also join in the braying noises. What a racket those penguins all make!



after year, the penguins waddle along the same "city streets." Usually they go to and from the sea where they catch fish and squid.

#### **My "Downstairs" Chick**

Of all the thousands of penguins I have studied, the young adult we named Pete was the most special to me. Another scientist and I were living in a trailer next to the game warden's house. One day I was visiting the warden's family when I heard a loud hammering noise. We

**A male calls for a female to come and share his nest (left). Their young will spend three months there, often taking a midday snooze with Mom or Dad (below).**

By mid-October most of the females will have laid two eggs. The males and females take turns keeping their eggs warm. And in November, when the eggs hatch, both of the parents feed their noisy, begging chicks.

#### **Penguin City**

While the older birds are raising their chicks, younger adults come ashore. Soon there are hundreds of thousands of penguins at Punta Tombo, and the beach becomes a penguin city. Year





**Pete made a nest under our trailer (above). The next year Opus joined him there, and together they hatched two fluffy chicks (below).**



opened the door and found Pete had been pecking on their metal door.

Pete hopped inside. Then he waddled all over and finally slid under a bed. But he didn't seem to think it was a good place for a nest. So back outside he went.

In the middle of the night a loud braying rang through my trailer. It was Pete again. Now he had decided to dig a nesting burrow beneath my trailer. But poor Pete didn't have a mate. And poor me—he brayed every night for two weeks! I was glad when he got hungry and went to sea.

The next year Pete was luckier. He came by one day in September with a small female. We named her Opus. They visited several nests. Then together they chose the one under my trailer.

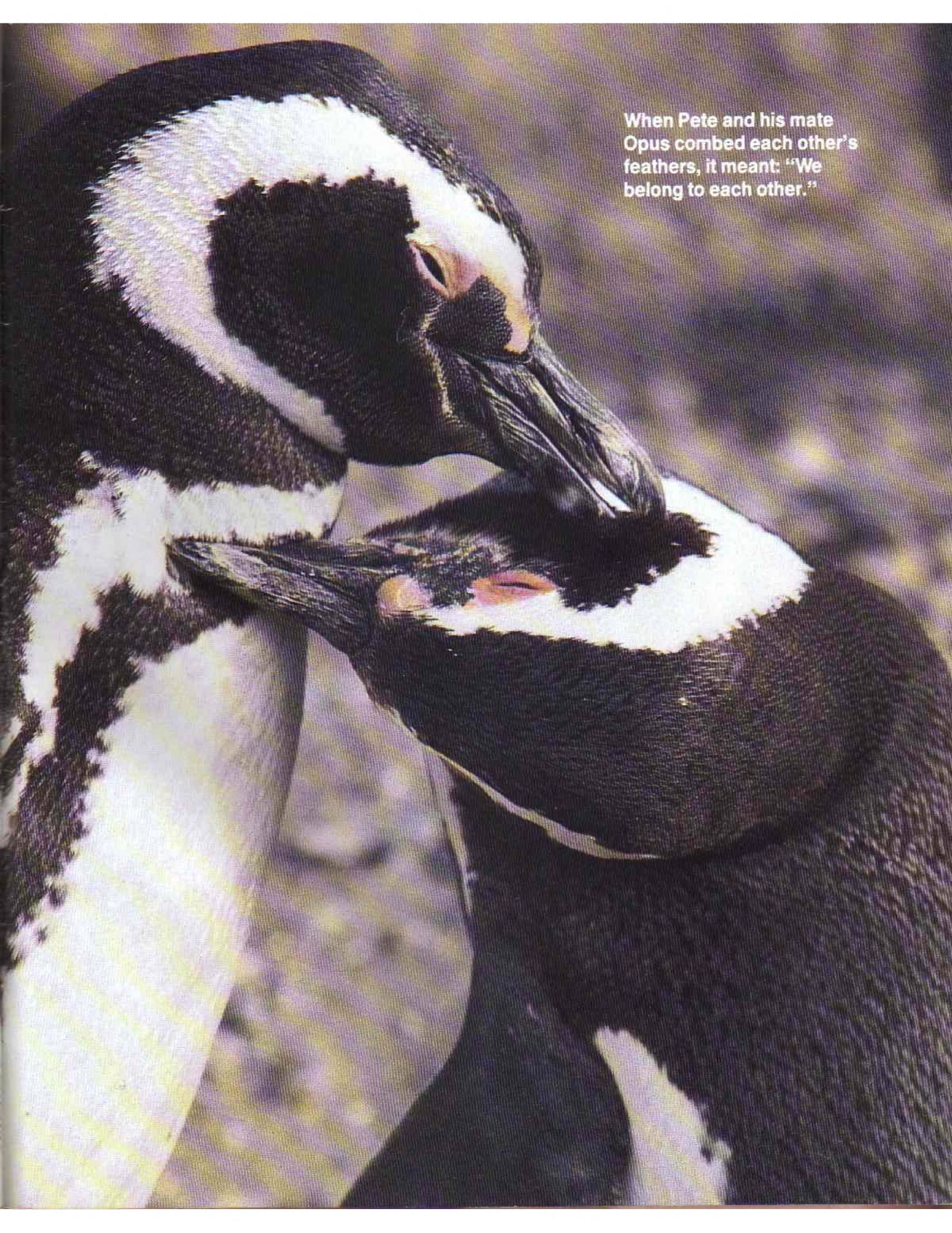
For days they brayed and preened each other's feathers. Whenever Opus left, Pete went along. But one day she left without him, so he brayed till she returned!

In October, Opus laid two eggs. And when the eggs hatched in November, I was happy that at last Pete had his own little family.

#### **Numbers Instead of Names**

You may wonder how we can tell one Magellanic penguin from the thousands of other penguins in the colony.



A close-up photograph of two penguins, likely African penguins, engaged in preening behavior. The penguin on the left is using its beak to groom the feathers of the penguin on the right. Both birds have black heads and backs with white underparts and distinctive white bands around their eyes. The background is a blurred, natural outdoor setting.

When Pete and his mate  
Opus combed each other's  
feathers, it meant: "We  
belong to each other."

We can't tell them *all* apart, but we can tell the *banded* ones apart. To band a penguin, we pull it gently out of its burrow or from its nest under a bush. We weigh and measure it and attach a numbered band to its flipper. The penguin will wear the band for its whole life. We also number the bird's nest. Then we'll be able to tell whether it returns to the same "address" each year. So far we have banded about 22,000 penguins at Punta Tombo.



**This young penguin (above) is ready to join the others on the crowded beach (above right). Soon they'll dive in for nine months at sea (right).**

### **Dangers on Land and Sea**

Life isn't easy for these sturdy birds. Foxes, armadillos, and hawks sometimes eat the penguins' eggs and chicks. And giant petrels, sea lions, and killer whales lurk in the water and try to catch the adults as they swim by.

And there are other dangers too. Some years a sleet storm hits the colony and many chicks get too cold and die. In other years there aren't enough fish swimming near shore to feed all the young, and many starve. Sometimes the birds swim into oil spilled by boats. Then their feathers get sticky and can't keep them warm.

But despite all these troubles, many penguins survive and come back year after year to nest. And we've learned a lot about what they do during nesting time.

### **A Busy Time for Mom and Dad**

Small penguin chicks eat every few hours. At first one parent stays at the nest to feed and protect the young chicks. This parent keeps the chicks warm by sitting gently on them. The other walks to the sea and swims away to find fish. After filling its stomach with food, it hurries back to the nest. Then it leans down and regurgitates (ree-GUR-jih-tates), or throws





up, some fish for the chicks.

Food is hard to find, and by January it takes both parents working full time to keep the chicks fed. Sometimes they have to wait seven days between meals. While waiting, the young birds waddle out of their nests and stand around in small groups like kids on a street corner. When a parent returns with food and can't find its chicks, it brays. Its own chicks answer by peeping as they scamper to be fed.

By mid-February, the chicks' brown-gray fluff has been replaced by gray and white "teenage" feathers. And by the end of the month, they are fat from eating and ready to spend the next nine months at sea. They waddle across the beach and dive into the water. They move their strong flippers up and down. Then off they "fly" underwater to start their adventures at sea. 🐼

Adapted with permission from an article in *Animal Kingdom* (Mar-Apr 1986), the magazine of the New York Zoological Society.





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